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Rodent leptospirosis in North Khorasan Province, Northeast of Iran

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Background: Leptospirosis is a zoonotic diseases caused by leptospires,which is belonged to species of Leptospirainterroganscontaining over 212 serovars. Rodents can act as a major source of infection for humans and animals. The disease has a global distribution, mainly in humid, tropical and sub-tropical regions. In Iran the disease is endemic in some parts of the north of the country.

Methods & Materials: This study was conducted to investigate the existenceand important ofLeptospira species in rodent of North Khorasan Province, Iran. For this study, thirty six rodents were trapped alive. Blood samples were taken and serum were separated and kept in freezer for serological investigation. The seropositiveserovars were identified and the antibody titers were measured bythe standard microscopic agglutination test(MAT), using a panel of 8 strains of live Leptospira species as antigens. Serial dilutions (1/100 to 1/1600) of serum were used.

Results: The result of this study showed that 12 samples (33%) had a positive reaction against one or twosarovars. In general, 5 samples had a posistive reaction with serovar Pomona, 3 samples with Australis, 2 samples with Taraseviand 2 samples with Icterohaemorrhagiae. Theresults also showed that the most prevalent leptospiraserovar was Pomona (14%) and the most common titer was 1/100 (10 samples) and thehighest titer was 1/200 (2 samples).

Conclusion: This study of leptospirosis is the first one in rodents in this region and it showed that Leptospirosis is prevalent in rodents in North Khorasan Province. However, further study is required to determine the importance of rodents in circulating the Leptospires into the animal and human populations.

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Biosecurity risk of wild bird markets and wild bird trade to avian influenza in Kaduna State, Nigeria

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Background: Despite possible introduction of highly pathogenic avian influenza(HPAI) H5N1 virus into Nigeria by wild birds, few studies were undertaken on live wild bird markets(LWBMs) role in HPAI surveillance. Study assessed LWBMs biosecurity, sellers' knowledge, attitude and practices(KAP) on biosecurity and wild bird trade(WBT) in Kaduna State.

Methods & Materials: LWBMs biosecurity and sellers' KAP assessed using biosecurity checklist and structured questionnaire respectively. Wild bird trade studied through market survey.

Results: All sellers were male; some (22.7%) report sick birds only when attempted treatment fails. Sellers kept poultry at home (78.9%); encouraging (100%) poultry–wild birds contact. Over 31.6% sellers don't wash hands with soap after handling birds. No seller knew any HPAI clinical sign though 21.1% knew HPAI affects human beings and none believes HPAI affects human beings. Sellers would report HPAI outbreak to reduce losses (38.9%). None of the LWBM was fenced with birds tied and allowed to move in 25% of LWBMs. Cages were wood/metal while fenced pens constructed from wood/wire mesh with un-cemented floor. No LWBM sourced birds from one reliable source neither were birds separated by species. Other livestock were sold in 75% of LWBMs. Free flying birds interact with wild birds in75% of LWBMs while local poultry-wild bird interaction occurred in 25% LWBMs. No seller wore protective clothing. All LWBMs clean cages regularly though none used disinfectant with 25% sellers disposing manure improperly. Over 75.9% of biosecurity features in LWBMs were risky with 76.2% being risky biosecurity practices and 80% (17/21) due to poor LWBM infrastructures. Food (31.8%), traditional medicine (45.5%); pets (77.3%) were reported wild birds uses. There was high demand for birds of prey during election years. White stork (11.42%) and geese (9.94%) were the main birds on sale. Threatened and rear wild bird species were being traded in the LWBMs. Over 45% of birds were sourced from 9 foreign countries with majority coming from Chad.

Conclusion: Sellers' KAP was poor with low risk perception. Biosecurity in LWBMs in Kaduna State was poor. Kaduna State WBT is linked to the global trade and could be a source for disease introduction into Nigeria. Trade be legalized and regulated; sellers trained on biosecurity and routine surveillance in LWBMs.

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